



PATIENT

James Young

SPECIES

Canine

BREED

Beagle

SEX

Male Neutered

AGE

6.10.10

WEIGHT

25lbs

INTERPRETED BY

Maggie Machen Lamy,
DVM, DACVIM
(Cardiology)

HOSPITAL NAME

Bel Air Veterinary
Hospital

REFERRING VET

Dr. Young

INVOICE

28767

DATE

2.3.23

PRESENTING CLINICAL SIGNS

History: Chronic, nonproductive cough since October 2022. Initially, CIRDC was suspected based upon CXR. At that time, lung sounds were unremarkable. However, the cough persisted and upon auscultation of his lungs there were harsh bronchovesicular sounds bilaterally in December 2022. The cough occurs at all times throughout the day even when otherwise resting comfortably. Doxycycline poorly tolerated. Zeniquin 37.5 mg PO SID for 10 days with no improvement. HO CKD. Grade 2/6 systolic, left sided murmur dx 8/2/2022.

-Pertinent abnormal PE/Chem/CBC/UA Results: Oct. 8, 2022: Radiology abnormalities - Moderate bronchial to bronchointerstitial pattern. Redundant dorsal tracheal membrane. 1/14/2022 - ALP 163 IU/L, pPSL 153 U/L; 1+ urine protein. 4/15/2022 - ALP 251 IU/L, cholesterol 340 mg/dL, pPSL 198 U/L, Platelets 409 K/uL USG 1.019, trace urine protein. 7/29/2022 - ALP 173 IU/L. BUN 42 mg/dL, Creat. 1.8 mg/dL SDMA 13.6. 7/30/2022 - USG 1.012, no urine protein. 11/26/2022 - Creat. 1.8 mg/dL

-Current medications: Denamarin Advanced daily since April 2022

-Sedation used: Traz/Gaba.

-Pertinent previous ultrasound results: No previous.

-STAT: Not requested

-Imaging performed by: Stephanie Warga RDCS, RVT.

ECHOCARDIOGRAM FINDINGS

2D, m-mode, color flow and doppler imaging is available. Mild diffuse thickening of mitral valve leaflets with no prolapse into the left atrial lumen. No mitral regurgitation with no left atrial dilation. Normal LV diameter with adequate myocardial function. The tricuspid valve appears normal with trace tricuspid regurgitation. Normal velocity. Normal right atrial and ventricular diameter and morphology indicating no overt evidence of pulmonary arterial hypertension. The pulmonic and aortic valves are normal in morphology and mobility. Mildly elevated pulmonic and normal aortic outflow velocities with laminar flow. No obvious aortic or pulmonic insufficiency. No pericardial or pleural effusion noted. No obvious cardiac masses.

CARDIAC CHART

CANINE CARDIAC PARAMETERS	MR VMAX (m/s)	TR VMAX (m/s)	LA/AO (Boon method)	LA/AO (Heart Base; Swe)	FS (%)	EF (%)	EPSS (cm)
NORMAL PARAMETER	4.5-5.5	<2.7	1.3	<1.6	28-40	40-100	<0.6
PATIENT	NA	2.5	NM	1.0	49	83	NM
CANINE CARDIAC PARAMETERS	HR (BPM)	AV VMAX (m/s)	PV MAX (m/s)	BODY WEIGHT (kg)	LA 2D short axis Base view (cm)	LVIDd Avg; 2D and m-mode short axis (cm)	LVIDs Avg; 2D and m-mode short axis (cm)
NORMAL PARAMETER	50-100	0.7-1.7	0.7-1.6	BELOW	BELOW	BELOW	BELOW
PATIENT	208	1.3	2.2	11.3	1.76	2.5	1.3
*Normal chamber parameters expressed as a mean value (SD)				3	1.27 (5.3)	2.46 (2.46)	1.36 (5.5)
BODY WEIGHT DEPENDENT PARAMETERS				5	1.40 (4.5)	2.74 (5.2)	1.60 (4.7)
*Note: All measurements based upon multi-modal images and methods. An average value is reported.				10	1.50 (3.8)	3.27 (3.5)	2.06 (3.1)
				15	1.83 (2.0)	3.71 (2.4)	2.43 (2.1)
				20	2.02 (1.9)	4.14 (2.2)	2.80 (2.0)
				25	2.18 (2.4)	4.48 (2.9)	3.10 (2.5)
				30	2.33 (3.3)	4.83 (3.9)	3.39 (3.4)
				35	2.48 (4.3)	5.17 (5.0)	3.69 (4.5)
				40	2.62 (5.2)	5.48 (6.1)	3.96 (5.4)
				50	2.88 (7.1)	6.07 (8.3)	4.46 (7.4)

Adapted from June Boon, Veterinary Echocardiography, 1998
Rishniw M and Hollis NE, J Vet Intern Med 2000; 14:429-435
Hansson et al, Vet Rad and Ultrasound 2002
Bonagura et al. Echocardiography: principles of interpretation, Vet Clin North Am 15:1177, 1995

INTERPRETATION OF THE FINDINGS & FURTHER RECOMMENDATIONS

Essentially normal cardiac structure and function. The only cause of a murmur identified is increased flow velocity through the RVOT/pulmonary artery. No obvious subaortic ridge or valvular abnormalities are visualized, and in the absence of structural abnormalities this is considered a benign flow murmur secondary to volume/HR changes. If this is a new murmur, it is reasonable to monitor periodically via recheck echocardiography in the future. No significant valvular insufficiencies were noted and no structural issues identified. A baseline BP is recommended.

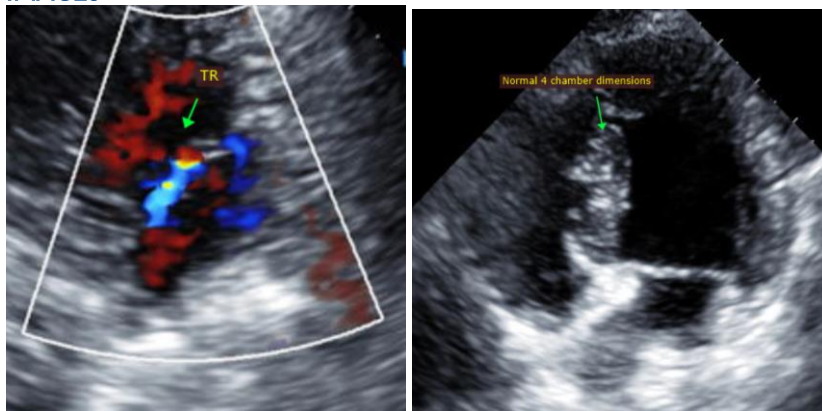
No cardiac medications are indicated at this time as the cough appears non-cardiac in origin. Continued work up for infectious/inflammatory respiratory causes is recommended. Options include Baytril or similar antibiotic, anti-inflammatory prednisone, aggressive hydrocodone, etc. If refractory, may consider TTW/BAL for further information.

Monitor for development of a heart murmur, cough, labored breathing, exercise intolerance or collapse episodes.

Chronic respiratory issues can lead to pulmonary hypertension if poorly controlled and a recheck echocardiogram is recommended should any exertional syncope/dyspnea occur, or a murmur be noted in the future.

Recommend recheck echocardiogram in 12 months to screen for PAH or development of concurrent cardiac disease that the preexisting murmur may mask, sooner should any exertional syncope/dyspnea occur.

IMAGES



The information and recommendations provided are based on the images presented by the referring veterinarian. No evaluation can be communicated regarding pathology that was not visible in the image/video clips provided.

Thank you for this referral. This report was generated using transcription software, and minor dictation errors may be present. If the clinical or image interpretation does not parallel your findings or if I can be of any further assistance please contact me.

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